SECTOR 02
USER FLOWMETER

V-Cone Application Sizing

Serial #	02-2258	Fluid State	LIQUID
Tag		Fluid	Water , WATER
Model	VP0CQE44N2	End User	ARGONNE NATIONAL LABORATORY
Job Ref.	JB11007		

Description	V-CONE 1.5" S304 VICTAULIC ENDS	Mktg. Code	26 04 159
Note			

C_f	0.8493	
P_f	150	psiG
T_f	90	°F
ρ	62.00	lb/ft3
μ	0.7827	cP
G		
Z		
Y		
k		
C_P		
Mw	18.015	
P_b		
T_b		
Z_b		
P_{baro}	14.696	psiA
P_c	3198.8	psiA
T_c	1164.8	°R
F_a	1.000	
aPE	D 9.5e-06 d 9.5e-06	⇐
P_v	0.6991	psiA
P_{loss}	2.312	psiA

⇐ Entered value.

q	max. Flowrate	24	GPM	McCrometer Cal.	
Re	max. Reynolds	6.008e+04		Third Party Cal.	
V	max. Velocity	3.815	fps	Dye. Pen. Exam.	
ΔP	max. Dp	86.974	inWC	Hydro. Test	
ΔP	min. Dp	0.86974	inWC	X-Ray Exam.	
D	Meter I.D.	1.6030	in	Mag. Part.	
d	Cone O.D.	1.4310	in	PMI	
β	Beta Ratio	0.4507		CMTR Copies	
	Turn Down	10		McCrometer Eng.	MPG

	Re	Velocity fps	Gas. Exp. Y	ΔP inWC	Flowrate GPM
1	6.008e+04	3.8153		86.974	24.000
2	5.407e+04	3.4338		70.450	21.600
3	4.806e+04	3.0523		55.663	19.200
4	4.205e+04	2.6707		42.617	16.800
5	3.605e+04	2.2892		31.311	14.400
6	3.004e+04	1.9077		21.743	12.000
7	2.403e+04	1.5261		13.916	9.6000
8	1.802e+04	1.1446		7.8277	7.2000
9	1.202e+04	0.76307		3.4790	4.8000
10	6008	0.38153		0.86974	2.4000

Table based on one flow condition (P, T ,Z , k ...) V40 Version 1.20

Record Start Date	09-20-2002
Print Date	10-10-2002

k1 = 1.9804e-02
k2 =
k3 =

McCROMETER